

# SEQUENCE LISTING

<110> Gish, Kurt C.  
Mack, David H.  
Wilson, Keith E.  
Markowitz, Sanford David

<120> Methods of Detecting Colorectal Cancer

<130> 05882.0179NPUS01

<150> 60/423,960

<151> 2002-11-04

<160> 6

<170> PatentIn version 3.2

<210> 1

<211> 3375

<212> DNA

<213> Homo sapien

<400> 1

```

gacagtgttc gcggtgcac cgctcggagg ctgggtgacc cgcgtagaag tgaagtactt      60
ttttatttgc agacctgggc cgatgccgct ttaaaaaacg cgaggggctc tatgcacctc    120
cctggcggtta gttcctccga cctcagccgg gtcgggtcgt gccgccctct cccaggagag    180
acaaacaggt gtcccacgtg gcagccgcgc cccgggcgcc cctcctgtga tcccgtagcg    240
ccccctggcc cgagccgcgc ccgggtctgt gagtagagcc gcccgggcac cgagcgctgg    300
tcgccgtctc cttccgtta tatcaacatg cccctttcc tgttgctgga ggccgtctgt    360
gttttctgt tttccagagt gccccatct ctccctctcc aggaagtcca tgtaagcaaa    420
gaaaccatcg ggaagatttc agctgccagc aaaatgatgt ggtgctcggc tgcagtggac    480
atcatgtttc tgtagatgg gtctaacagc gtcgggaaag ggagctttga aagggtccaag    540
cactttgcca tcacagtctg tgacggctctg gacatcagcc ccgagagggt cagagtggga    600
gcattccagt tcagttccac tctcatctg gaattcccct tggattcatt ttcaacccaa    660
caggaagtga aggcaagaat caagaggatg gttttcaaag gagggcgcac ggagacggaa    720
cttgctctga aataccttct gcacagaggg ttgcctggag gcagaaatgc ttctgtgccc    780
cagatcctca tcatcgtcac tgatgggaag tcccaggggg atgtggcact gccatccaag    840
cagctgaagg aaaggggtgt cactgtgttt gctgtggggg tcaggtttcc cagggtgggag    900
gagctgcatg cactggccag cgagcctaga gggcagcacg tgctgttggc tgagcaggtg    960
gaggatgcca ccaacggcct cttcagcacc ctcagcagct cggccatctg ctccagcgcc   1020
acgccagact gcagggtcga ggctcacccc tgtgagcaca ggacgctgga gatgggtccgg   1080

```

gagttcgctg gcaatgcccc atgctggaga ggatcgcggc ggacccttgc ggtgctggct	1140
gcacactgtc ccttctacag ctggaagaga gtgttcctaa cccaccctgc cacctgctac	1200
aggaccacct gcccaggccc ctgtgactcg cagccctgcc agaatggagg cacatgtgtt	1260
ccagaaggac tggacggcta ccagtgcctc tgcccgtgg cctttggagg ggaggctaac	1320
tgtgccctga agctgagcct ggaatgcagg gtcgacctcc tcttcctgct ggacagctct	1380
gcggggacca ctctggacgg ctccctgcgg gccaaagtct tcgtgaagcg gtttgtgcgg	1440
gccgtgctga gcgaggactc tcggggccga gtgggtgtgg ccacatacag cagggagctg	1500
ctgggtggcg tgctgtggg ggagtaccag gatgtgcctg acctggctct gagcctcgat	1560
ggcattccct tccgtgggtg cccaccctg acgggcagt ccttgccgca ggccgcagag	1620
cgtggcttcg ggagcgccac caggacaggc caggaccggc cacgtagagt ggtggttttg	1680
ctcactgagt cacactccga ggatgagggt gcggggccag cgcgtcacgc aagggcgcga	1740
gagctgctcc tgctgggtgt aggcagtga gccgtgcggg cagagctgga ggagatcaca	1800
ggcagcccaa agcatgtgat ggtctactcg gatcctcagg atctgttcaa ccaaattccct	1860
gagctgcagg ggaagctgtg cagccggcag cggccagggt gccggacaca agccctggac	1920
ctcgtcttca tgttggacac ctctgcctca gtagggccc agaattttgc tcagatgcag	1980
agctttgtga gaagctgtgc cctccagttt gaggtgaacc ctgacgtgac acaggctcggc	2040
ctgggtgggt atggcagcca ggtgcagact gccttcgggc tggacaccaa acccaccg	2100
gctgcgatgc tgcggggccat tagccaggcc ccctacctag gtgggggtggg ctccagccggc	2160
accgccctgc tgcacatcta tgacaaagt atgaccgtcc agaggggtgc ccggcctgg	2220
gtcccccagg ctgtggtggt gctcacaggc gggagaggcg cagaggatgc agccgttcct	2280
gcccagaagc tgaggaacaa tggcatctct gtcttggtcg tgggcgtggg gcctgtccta	2340
agtgagggtc tgcggaggct tgcaggctcc cgggattccc tgatccacgt ggcagcttac	2400
gccgacctgc ggtaccacca ggacgtgctc attgagtggc tgtgtggaga agccaagcag	2460
ccagtcaacc tctgcaaacc cagcccgtgc atgaatgagg gcagctgcgt cctgcagaat	2520
gggagctacc gctgcaagtg tcgggatggc tgggagggcc cccactgcga gaaccgtgag	2580
tggagctctt gctctgtatg tgtgagccag ggatggattc ttgagacgcc cctgaggcac	2640
atggctcccc tgcaggagg cagcagccgt acccctccca gcaactacag agaaggcctg	2700
ggcactgaaa tgggtgcctac cttctggaat gtctgtgccc caggctccta gaatgtctgc	2760
ttccccccgt ggccaggacc actattctca ctgagggagg aggatgtccc aactgcagcc	2820

atgctgctta gagacaagaa agcagctgat gtcacccaca aacgatgttg ttgaaaagtt 2880  
 ttgatgtgta agtaaatacc cactttctgt acctgctgtg ccttggtgag gctatgtcat 2940  
 ctgccacctt tcccttgagg ataaacaagg ggtcctgaag acttaaattt agcggcctga 3000  
 cgttcctttg cacacaatca atgctcgcca gaatgttggt gacacagtaa tgcccagcag 3060  
 aggcctttac tagagcatcc ttgggacggc gaaggccacg gcctttcaag atggaaagca 3120  
 gcagcttttc cacttcccca gagacattct ggatgcattt gcattgagtc tgaaaggggg 3180  
 cttgaggggac gtttgtgact tcttggcgac tgccttttgt gtgtggaaga gacttggaaa 3240  
 ggtctcagac tgaatgtgac caattaacca gcttggttga tgatggggga ggggctgagt 3300  
 tgtgcatggg cccaggtctg gagggccacg taaaatcggt ctgagtcgtg agcagtgtcc 3360  
 accttgaagg tcttc 3375

<210> 2  
 <211> 807  
 <212> PRT  
 <213> Homo sapien

<400> 2

Met	Pro	Pro	Phe	Leu	Leu	Leu	Glu	Ala	Val	Cys	Val	Phe	Leu	Phe	Ser
1				5					10					15	
Arg	Val	Pro	Pro	Ser	Leu	Pro	Leu	Gln	Glu	Val	His	Val	Ser	Lys	Glu
			20					25					30		
Thr	Ile	Gly	Lys	Ile	Ser	Ala	Ala	Ser	Lys	Met	Met	Trp	Cys	Ser	Ala
		35					40					45			
Ala	Val	Asp	Ile	Met	Phe	Leu	Leu	Asp	Gly	Ser	Asn	Ser	Val	Gly	Lys
		50				55					60				
Gly	Ser	Phe	Glu	Arg	Ser	Lys	His	Phe	Ala	Ile	Thr	Val	Cys	Asp	Gly
65					70				75					80	
Leu	Asp	Ile	Ser	Pro	Glu	Arg	Val	Arg	Val	Gly	Ala	Phe	Gln	Phe	Ser
			85					90						95	
Ser	Thr	Pro	His	Leu	Glu	Phe	Pro	Leu	Asp	Ser	Phe	Ser	Thr	Gln	Gln
		100						105					110		
Glu	Val	Lys	Ala	Arg	Ile	Lys	Arg	Met	Val	Phe	Lys	Gly	Gly	Arg	Thr
		115				120						125			
Glu	Thr	Glu	Leu	Ala	Leu	Lys	Tyr	Leu	Leu	His	Arg	Gly	Leu	Pro	Gly
		130				135					140				
Gly	Arg	Asn	Ala	Ser	Val	Pro	Gln	Ile	Leu	Ile	Ile	Val	Thr	Asp	Gly
145					150				155					160	
Lys	Ser	Gln	Gly	Asp	Val	Ala	Leu	Pro	Ser	Lys	Gln	Leu	Lys	Glu	Arg
			165					170						175	

Gly Val Thr Val Phe Ala Val Gly Val Arg Phe Pro Arg Trp Glu Glu  
 180 185 190  
 Leu His Ala Leu Ala Ser Glu Pro Arg Gly Gln His Val Leu Leu Ala  
 195 200 205  
 Glu Gln Val Glu Asp Ala Thr Asn Gly Leu Phe Ser Thr Leu Ser Ser  
 210 215 220  
 Ser Ala Ile Cys Ser Ser Ala Thr Pro Asp Cys Arg Val Glu Ala His  
 225 230 235 240  
 Pro Cys Glu His Arg Thr Leu Glu Met Val Arg Glu Phe Ala Gly Asn  
 245 250 255  
 Ala Pro Cys Trp Arg Gly Ser Arg Arg Thr Leu Ala Val Leu Ala Ala  
 260 265 270  
 His Cys Pro Phe Tyr Ser Trp Lys Arg Val Phe Leu Thr His Pro Ala  
 275 280 285  
 Thr Cys Tyr Arg Thr Thr Cys Pro Gly Pro Cys Asp Ser Gln Pro Cys  
 290 295 300  
 Gln Asn Gly Gly Thr Cys Val Pro Glu Gly Leu Asp Gly Tyr Gln Cys  
 305 310 315 320  
 Leu Cys Pro Leu Ala Phe Gly Gly Glu Ala Asn Cys Ala Leu Lys Leu  
 325 330 335  
 Ser Leu Glu Cys Arg Val Asp Leu Leu Phe Leu Leu Asp Ser Ser Ala  
 340 345 350  
 Gly Thr Thr Leu Asp Gly Phe Leu Arg Ala Lys Val Phe Val Lys Arg  
 355 360 365  
 Phe Val Arg Ala Val Leu Ser Glu Asp Ser Arg Ala Arg Val Gly Val  
 370 375 380  
 Ala Thr Tyr Ser Arg Glu Leu Leu Val Ala Val Pro Val Gly Glu Tyr  
 385 390 395 400  
 Gln Asp Val Pro Asp Leu Val Trp Ser Leu Asp Gly Ile Pro Phe Arg  
 405 410 415  
 Gly Gly Pro Thr Leu Thr Gly Ser Ala Leu Arg Gln Ala Ala Glu Arg  
 420 425 430  
 Gly Phe Gly Ser Ala Thr Arg Thr Gly Gln Asp Arg Pro Arg Arg Val  
 435 440 445  
 Val Val Leu Leu Thr Glu Ser His Ser Glu Asp Glu Val Ala Gly Pro  
 450 455 460  
 Ala Arg His Ala Arg Ala Arg Glu Leu Leu Leu Leu Gly Val Gly Ser  
 465 470 475 480  
 Glu Ala Val Arg Ala Glu Leu Glu Glu Ile Thr Gly Ser Pro Lys His

485					490					495					
Val	Met	Val	Tyr	Ser	Asp	Pro	Gln	Asp	Leu	Phe	Asn	Gln	Ile	Pro	Glu
			500					505					510		
Leu	Gln	Gly	Lys	Leu	Cys	Ser	Arg	Gln	Arg	Pro	Gly	Cys	Arg	Thr	Gln
		515					520					525			
Ala	Leu	Asp	Leu	Val	Phe	Met	Leu	Asp	Thr	Ser	Ala	Ser	Val	Gly	Pro
		530				535					540				
Glu	Asn	Phe	Ala	Gln	Met	Gln	Ser	Phe	Val	Arg	Ser	Cys	Ala	Leu	Gln
545					550					555					560
Phe	Glu	Val	Asn	Pro	Asp	Val	Thr	Gln	Val	Gly	Leu	Val	Val	Tyr	Gly
				565					570						575
Ser	Gln	Val	Gln	Thr	Ala	Phe	Gly	Leu	Asp	Thr	Lys	Pro	Thr	Arg	Ala
			580					585					590		
Ala	Met	Leu	Arg	Ala	Ile	Ser	Gln	Ala	Pro	Tyr	Leu	Gly	Gly	Val	Gly
		595					600					605			
Ser	Ala	Gly	Thr	Ala	Leu	Leu	His	Ile	Tyr	Asp	Lys	Val	Met	Thr	Val
	610					615					620				
Gln	Arg	Gly	Ala	Arg	Pro	Gly	Val	Pro	Lys	Ala	Val	Val	Val	Leu	Thr
625					630					635					640
Gly	Gly	Arg	Gly	Ala	Glu	Asp	Ala	Ala	Val	Pro	Ala	Gln	Lys	Leu	Arg
				645					650					655	
Asn	Asn	Gly	Ile	Ser	Val	Leu	Val	Val	Gly	Val	Gly	Pro	Val	Leu	Ser
			660					665					670		
Glu	Gly	Leu	Arg	Arg	Leu	Ala	Gly	Pro	Arg	Asp	Ser	Leu	Ile	His	Val
		675					680					685			
Ala	Ala	Tyr	Ala	Asp	Leu	Arg	Tyr	His	Gln	Asp	Val	Leu	Ile	Glu	Trp
		690				695					700				
Leu	Cys	Gly	Glu	Ala	Lys	Gln	Pro	Val	Asn	Leu	Cys	Lys	Pro	Ser	Pro
705					710					715					720
Cys	Met	Asn	Glu	Gly	Ser	Cys	Val	Leu	Gln	Asn	Gly	Ser	Tyr	Arg	Cys
				725					730					735	
Lys	Cys	Arg	Asp	Gly	Trp	Glu	Gly	Pro	His	Cys	Glu	Asn	Arg	Glu	Trp
			740					745					750		
Ser	Ser	Cys	Ser	Val	Cys	Val	Ser	Gln	Gly	Trp	Ile	Leu	Glu	Thr	Pro
		755					760					765			
Leu	Arg	His	Met	Ala	Pro	Val	Gln	Glu	Gly	Ser	Ser	Arg	Thr	Pro	Pro
		770					775					780			
Ser	Asn	Tyr	Arg	Glu	Gly	Leu	Gly	Thr	Glu	Met	Val	Pro	Thr	Phe	Trp
785				790					795						800

Asn Val Cys Ala Pro Gly Pro  
805

<210> 3  
<211> 5808  
<212> DNA  
<213> Homo sapien

<400> 3  
gctcaccag gaaaaatatg caatcgtccc attgatatac aggccactac aatggatgga 60  
gttaacctca gcaccgaggt tgtctacaaa aaaggccagg attatagggt tgcttgctac 120  
gaccggggca gagcctgccg gagctaccgt gtacggttcc tctgtgggaa gcctgtgagg 180  
cccaaactca cagtcaccat tgacaccaat gtgaacagca ccattctgaa cttggaggat 240  
aatgtacagt catggaaacc tggagatacc ctggtcattg ccagtactga ttactccatg 300  
taccaggcag aagagttcca ggtgcttccc tgcagatcct gcgccccaa ccagggtcaaa 360  
gtggcagggg aaccaatgta cctgcacatc ggggaggaga tagacggcgt ggacatgcgg 420  
gcggagggtt ggcttctgag ccggaacatc atagtgatgg gggagatgga ggacaaatgc 480  
taccctaca gaaaccacat ctgcaatttc ttgacttcg atacctttgg gggccacatc 540  
aagtttgctc tgggatttaa ggcagcacac ttggagggca cggagctgaa gcatatggga 600  
cagcagctgg tgggtcagta cccgattcac ttccacctgg ccggtgatgt agacgaaagg 660  
ggaggttatg acccaccac atacatcagg gacctctcca tccatcatac attctctcgc 720  
tgcgtcacag tccatggctc caatggcttg ttgatcaagg acgttggtgg ctataactct 780  
ttgggccact gcttcttcac ggaagatggg ccggaggaac gcaacacttt tgaccactgt 840  
cttggcctcc ttgtcaagtc tggaaacctc ctcccctcgg accgtgacag caagatgtgc 900  
aagatgatca caggagactc ctaccagggt tacatcccca agcccaggca agactgcaat 960  
gctgtgtcca ctttctggat ggccaatccc aacaacaacc tcatcaactg tgccgtgca 1020  
ggatctgagg aaactggatt ttggtttatt tttcaccacg taccaacggg cccctccgtg 1080  
ggaatgtact cccaggtta ttcagagcac attccactgg gaaaattcta taacaaccga 1140  
gcacattcca actaccgggc tggcatgatc atagacaacg gagtcaaac caccgaggcc 1200  
tctgccaaagg acaagcggcc gttcctctca atcatctctg ccagatacag ccctcaccag 1260  
gacgccgacc cgctgaagcc ccgggagccg gccatcatca gacacttcat tgcttacaag 1320  
aaccaggacc acggggcctg gctgcgcggc ggggatgtgt ggctggacag ctgccggttt 1380  
gctgacaatg gcattggcct gaccctggcc agtgggtggaa ccttcccgtg tgacgacggc 1440  
tccaagcaag agataaagaa cagcttgttt gttggcgaga gtggcaacgt ggggacggaa 1500

atgatggaca ataggatctg gggccctggc ggcttggacc atagcggaag gaccctccct	1560
ataggccaga attttccaat tagaggaatt cagttatatg atggcccat caacatccaa	1620
aactgcactt tccgaaagt tgtggccctg gagggccggc acaccagcgc cctggccttc	1680
cgcctgaata atgcctggca gagctgcccc cataacaacg tgaccggcat tgcctttgag	1740
gacgttccga ttacttccag agtgttcttc ggagagcctg ggccctgggt caaccagctg	1800
gacatggatg gggataagac atctgtgttc catgacgtcg acggctccgt gtccgagtac	1860
cctggctcct acctcacgaa gaatgacaac tggctgggtcc ggcacccaga ctgcatcaat	1920
gttcccgact ggagaggggc catttgcaat ggggtgctatg cacagatgta cattcaagcc	1980
tacaagacca gtaacctgcg aatgaagatc atcaagaatg acttccccag ccaccctctt	2040
tacctggagg gggcgctcac caggagcacc cattaccagc aataccaacc ggttgtcacc	2100
ctgcagaagg gctacaccat ccactgggac cagacggccc ccgccgaact cgccatctgg	2160
ctcatcaact tcaacaaggg cgactggatc cgagtggggc tctgctaccc gcgaggcacc	2220
acattctcca tcctctcgga tggtcacaat cgcctgctga agcaaacgtc caagacgggc	2280
gtcttcgtga ggaccttgca gatggacaaa gtggagcaga gctaccctgg caggagccac	2340
tactactggg acgaggactc agggctgttg ttcctgaagc tgaaagctca gaacgagaga	2400
gagaagtttg ctttctgctc catgaaaggc tgtgagagga taaagattaa agctctgatt	2460
ccaaagaacg caggcgtag tgactgcaca gccacagctt accccaagtt caccgagagg	2520
gctgtcgtag acgtgccgat gcccaagaag ctctttgggt ctcagctgaa aacaaaggac	2580
catttcttgg aggtgaagat ggagagttcc aagcagcact tcttccacct ctggaacgac	2640
ttcgcttaca ttgaagtgga tgggaagaag taccacagtt cggaggatgg catccagggtg	2700
gtggtgattg acgggaacca agggcgctg gtgagccaca cgagcttcag gaactccatt	2760
ctgcaaggca taccatggca gcttttcaac tatgtggcga ccatccctga caattccata	2820
gtgcttatgg catcaaaggg aagatacgtc tccagaggcc catggaccag agtgctggaa	2880
aagcttgggg cagacagggg tctcaagttg aaagagcaaa tggcattcgt tggcttcaaa	2940
ggcagcttcc ggcccatctg ggtgacactg gacactgagg atcacaaagc caaatcttc	3000
caagttgtgc ccatccctgt ggtgaagaag aagaagttgt gaggacagct gccgcccggg	3060
gccacctcgt ggtagactat gacggtgact cttggcagca gaccagtggg ggatggctgg	3120
gtccccagc ccctgccagc agctgcctgg gaaggccgtg tttcagccct gatgggcca	3180
gggaaggcta tcagagaccc tgggtgctgcc acctgcccct actcaagtgt ctacctggag	3240
cccctggggc ggtgctggcc aatgctggaa acattcactt tcctgcagcc tcttgggtgc	3300

ttctctccta tctgtgcctc ttcagtgggg gtttggggac catatcagga gacctggggt	3360
gtgctgacag caaagatcca ctttggcagg agccctgacc cagctaggag gtagtctgga	3420
gggctggtca ttcacagatc cccatggtct tcagcagaca agtgaggggtg gtaaagttag	3480
gagaaagagc cttggcctta aggaaatctt tactcctgta agcaagagcc aacctcacag	3540
gattaggagc tggggtagaa ctggctatcc ttggggaaga ggcaagccct gcctctggcc	3600
gtgtccacct ttcaggagac tttgagtggc aggtttggac ttggactaga tgactctcaa	3660
aggccctttt agttctgaga ttccagaaat ctgctgcatt tcacatggta cctggaaccc	3720
aacagttcat ggatatccac tgatatccat gatgctgggt gcccagcgc acacgggatg	3780
gagaggtgag aactaatgcc tagcttgagg ggtctgcagt ccagtagggc aggcagtcag	3840
gtccatgtgc actgcaatgc cagggtggaga aatcacagag aggtaaaatg gaggccagt	3900
ccatttcaga ggggaggctc aggaaggctt cttgcttaca ggaatgaagg ctgggggcat	3960
tttgcctggg ggagatgagg cagcctctgg aatggctcag ggattcagcc ctccctgccg	4020
ctgcctgctg aagctggtga ctacggggtc gccctttgct cacgtctctc tggcccactc	4080
atgatggaga agtggtgtca gaggggagca atgggctttg ctgcttatga gcacagagga	4140
attcagtccc caggcagccc tgcctctgac tccaagaggg tgaagtccac agaagtgagc	4200
tcttgctta gggcctcatt tgctcttcat ccagggaact gagcacaggg ggccctccagg	4260
agaccctaga tgtgctcgta ctccctcggc ctgggatttc agagctggaa atatagaaaa	4320
tatctagccc aaagccttca ttttaacaga tggggaaagt gagccccaa gatgggaaag	4380
aaccacacag ctaagggagg gcctggggag cccacccta gcccttgctg ccacaccaca	4440
ttgcctcaac aaccggcccc agagtgccca ggcactcctg aggtagcttc tggaaatggg	4500
gacaagtccc ctcgaaggaa aggaaatgac tagagtagaa tgacagctag cagatctctt	4560
ccctcctgct cccagcgcac acaaaccgc cctccccttg gtgttgggg tccctgtggc	4620
cttcactttg ttcactacct gtcagcccag cctgggtgca cagtagctgc aactccccat	4680
tggtgctacc tggctctcct gtctctgcag ctctacaggg gaggcccagc agagggagta	4740
gggctcgcca tgtttctggt gagccaattt ggctgatctt ggggtgtctga acagctattg	4800
ggtccacccc agtccctttc agctgctgct taatgccctg ctctctccct ggccacctt	4860
atagagagcc caaagagctc ctgtaagagg gagaactcta tctgtggttt ataactttgc	4920
acgaggcacc agagtctccc tgggtcttgt gatgaactac atttatcccc tttcctgccc	4980
caaccacaaa ctctttcctt caaagagggc ctgcctggct ccctccaccc aactgcaccc	5040



atgagactcg gtccaagagt ccattcccca ggtgggagcc aactgtcagg gaggtctttc 5100  
 ccaccaaaca tctttcagct gctgggaggt gaccataggg ctctgctttt aaagatatgg 5160  
 ctgcttcaaa ggccagagtc acaggaagga cttcttccag ggagattagt ggtgatggag 5220  
 aggagagtta aaatgacctc atgtccttct tgtccacggt tttgttgagt tttcactctt 5280  
 ctaatgcaag ggtctcacac tgtgaaccac ttaggatgtg atcactttca ggtggccagg 5340  
 aatgttgaat gtctttggct cagttcattt aaaaaagata tctatttgaa agttctcaga 5400  
 gttgtacata tgtttcacag tacaggatct gtacataaaa gtttctttcc taaaccattc 5460  
 accaagagcc aatatctagg cattttcttg gtagcacaaa ttttcttatt gcttagaaaa 5520  
 ttgtcctcct tgttatttct gtttgtaaga cttaagtga ttaggtcttt aaggaaagca 5580  
 acgctcctct gaaatgcttg tcttttttct gttgccgaaa tagctgggtcc tttttcggga 5640  
 gttagatgta tagagtgttt gtatgtaaac atttcttgta ggcataacca tgaacaaaga 5700  
 tatattttct atttatttat tatatgtgca cttcaagaag tcaactgtcag agaaataaag 5760  
 aattgtctta aatgtcaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 5808

<210> 4  
 <211> 996  
 <212> PRT  
 <213> Homo sapien

<400> 4

Met	Asp	Gly	Val	Asn	Leu	Ser	Thr	Glu	Val	Val	Tyr	Lys	Lys	Gly	Gln
1				5					10					15	
Asp	Tyr	Arg	Phe	Ala	Cys	Tyr	Asp	Arg	Gly	Arg	Ala	Cys	Arg	Ser	Tyr
			20					25					30		
Arg	Val	Arg	Phe	Leu	Cys	Gly	Lys	Pro	Val	Arg	Pro	Lys	Leu	Thr	Val
			35				40					45			
Thr	Ile	Asp	Thr	Asn	Val	Asn	Ser	Thr	Ile	Leu	Asn	Leu	Glu	Asp	Asn
			50			55					60				
Val	Gln	Ser	Trp	Lys	Pro	Gly	Asp	Thr	Leu	Val	Ile	Ala	Ser	Thr	Asp
65				70					75					80	
Tyr	Ser	Met	Tyr	Gln	Ala	Glu	Glu	Phe	Gln	Val	Leu	Pro	Cys	Arg	Ser
			85					90						95	
Cys	Ala	Pro	Asn	Gln	Val	Lys	Val	Ala	Gly	Lys	Pro	Met	Tyr	Leu	His
			100					105					110		
Ile	Gly	Glu	Glu	Ile	Asp	Gly	Val	Asp	Met	Arg	Ala	Glu	Val	Gly	Leu
			115				120					125			
Leu	Ser	Arg	Asn	Ile	Ile	Val	Met	Gly	Glu	Met	Glu	Asp	Lys	Cys	Tyr
			130			135					140				

Pro Tyr Arg Asn His Ile Cys Asn Phe Phe Asp Phe Asp Thr Phe Gly  
 145 150 155 160  
 Gly His Ile Lys Phe Ala Leu Gly Phe Lys Ala Ala His Leu Glu Gly  
 165 170 175  
 Thr Glu Leu Lys His Met Gly Gln Gln Leu Val Gly Gln Tyr Pro Ile  
 180 185 190  
 His Phe His Leu Ala Gly Asp Val Asp Glu Arg Gly Gly Tyr Asp Pro  
 195 200 205  
 Pro Thr Tyr Ile Arg Asp Leu Ser Ile His His Thr Phe Ser Arg Cys  
 210 215 220  
 Val Thr Val His Gly Ser Asn Gly Leu Leu Ile Lys Asp Val Val Gly  
 225 230 235 240  
 Tyr Asn Ser Leu Gly His Cys Phe Phe Thr Glu Asp Gly Pro Glu Glu  
 245 250 255  
 Arg Asn Thr Phe Asp His Cys Leu Gly Leu Leu Val Lys Ser Gly Thr  
 260 265 270  
 Leu Leu Pro Ser Asp Arg Asp Ser Lys Met Cys Lys Met Ile Thr Gly  
 275 280 285  
 Asp Ser Tyr Pro Gly Tyr Ile Pro Lys Pro Arg Gln Asp Cys Asn Ala  
 290 295 300  
 Val Ser Thr Phe Trp Met Ala Asn Pro Asn Asn Asn Leu Ile Asn Cys  
 305 310 315 320  
 Ala Ala Ala Gly Ser Glu Glu Thr Gly Phe Trp Phe Ile Phe His His  
 325 330 335  
 Val Pro Thr Gly Pro Ser Val Gly Met Tyr Ser Pro Gly Tyr Ser Glu  
 340 345 350  
 His Ile Pro Leu Gly Lys Phe Tyr Asn Asn Arg Ala His Ser Asn Tyr  
 355 360 365  
 Arg Ala Gly Met Ile Ile Asp Asn Gly Val Lys Thr Thr Glu Ala Ser  
 370 375 380  
 Ala Lys Asp Lys Arg Pro Phe Leu Ser Ile Ile Ser Ala Arg Tyr Ser  
 385 390 395 400  
 Pro His Gln Asp Ala Asp Pro Leu Lys Pro Arg Glu Pro Ala Ile Ile  
 405 410 415  
 Arg His Phe Ile Ala Tyr Lys Asn Gln Asp His Gly Ala Trp Leu Arg  
 420 425 430  
 Gly Gly Asp Val Trp Leu Asp Ser Cys Arg Phe Ala Asp Asn Gly Ile  
 435 440 445  
 Gly Leu Thr Leu Ala Ser Gly Gly Thr Phe Pro Tyr Asp Asp Gly Ser

450					455					460						
Lys	Gln	Glu	Ile	Lys	Asn	Ser	Leu	Phe	Val	Gly	Glu	Ser	Gly	Asn	Val	
465					470					475					480	
Gly	Thr	Glu	Met	Met	Asp	Asn	Arg	Ile	Trp	Gly	Pro	Gly	Gly	Leu	Asp	
				485					490					495		
His	Ser	Gly	Arg	Thr	Leu	Pro	Ile	Gly	Gln	Asn	Phe	Pro	Ile	Arg	Gly	
			500					505					510			
Ile	Gln	Leu	Tyr	Asp	Gly	Pro	Ile	Asn	Ile	Gln	Asn	Cys	Thr	Phe	Arg	
		515					520					525				
Lys	Phe	Val	Ala	Leu	Glu	Gly	Arg	His	Thr	Ser	Ala	Leu	Ala	Phe	Arg	
	530					535					540					
Leu	Asn	Asn	Ala	Trp	Gln	Ser	Cys	Pro	His	Asn	Asn	Val	Thr	Gly	Ile	
545					550					555					560	
Ala	Phe	Glu	Asp	Val	Pro	Ile	Thr	Ser	Arg	Val	Phe	Phe	Gly	Glu	Pro	
				565					570					575		
Gly	Pro	Trp	Phe	Asn	Gln	Leu	Asp	Met	Asp	Gly	Asp	Lys	Thr	Ser	Val	
			580					585					590			
Phe	His	Asp	Val	Asp	Gly	Ser	Val	Ser	Glu	Tyr	Pro	Gly	Ser	Tyr	Leu	
		595					600					605				
Thr	Lys	Asn	Asp	Asn	Trp	Leu	Val	Arg	His	Pro	Asp	Cys	Ile	Asn	Val	
	610					615					620					
Pro	Asp	Trp	Arg	Gly	Ala	Ile	Cys	Ser	Gly	Cys	Tyr	Ala	Gln	Met	Tyr	
625					630					635					640	
Ile	Gln	Ala	Tyr	Lys	Thr	Ser	Asn	Leu	Arg	Met	Lys	Ile	Ile	Lys	Asn	
				645					650					655		
Asp	Phe	Pro	Ser	His	Pro	Leu	Tyr	Leu	Glu	Gly	Ala	Leu	Thr	Arg	Ser	
			660					665					670			
Thr	His	Tyr	Gln	Gln	Tyr	Gln	Pro	Val	Val	Thr	Leu	Gln	Lys	Gly	Tyr	
		675				680						685				
Thr	Ile	His	Trp	Asp	Gln	Thr	Ala	Pro	Ala	Glu	Leu	Ala	Ile	Trp	Leu	
	690					695					700					
Ile	Asn	Phe	Asn	Lys	Gly	Asp	Trp	Ile	Arg	Val	Gly	Leu	Cys	Tyr	Pro	
705					710					715					720	
Arg	Gly	Thr	Thr	Phe	Ser	Ile	Leu	Ser	Asp	Val	His	Asn	Arg	Leu	Leu	
				725					730					735		
Lys	Gln	Thr	Ser	Lys	Thr	Gly	Val	Phe	Val	Arg	Thr	Leu	Gln	Met	Asp	
			740					745					750			
Lys	Val	Glu	Gln	Ser	Tyr	Pro	Gly	Arg	Ser	His	Tyr	Tyr	Trp	Asp	Glu	
	755					760						765				

Asp Ser Gly Leu Leu Phe Leu Lys Leu Lys Ala Gln Asn Glu Arg Glu  
 770 775 780  
 Lys Phe Ala Phe Cys Ser Met Lys Gly Cys Glu Arg Ile Lys Ile Lys  
 785 790 795 800  
 Ala Leu Ile Pro Lys Asn Ala Gly Val Ser Asp Cys Thr Ala Thr Ala  
 805 810 815  
 Tyr Pro Lys Phe Thr Glu Arg Ala Val Val Asp Val Pro Met Pro Lys  
 820 825 830  
 Lys Leu Phe Gly Ser Gln Leu Lys Thr Lys Asp His Phe Leu Glu Val  
 835 840 845  
 Lys Met Glu Ser Ser Lys Gln His Phe Phe His Leu Trp Asn Asp Phe  
 850 855 860  
 Ala Tyr Ile Glu Val Asp Gly Lys Lys Tyr Pro Ser Ser Glu Asp Gly  
 865 870 875 880  
 Ile Gln Val Val Val Ile Asp Gly Asn Gln Gly Arg Val Val Ser His  
 885 890 895  
 Thr Ser Phe Arg Asn Ser Ile Leu Gln Gly Ile Pro Trp Gln Leu Phe  
 900 905 910  
 Asn Tyr Val Ala Thr Ile Pro Asp Asn Ser Ile Val Leu Met Ala Ser  
 915 920 925  
 Lys Gly Arg Tyr Val Ser Arg Gly Pro Trp Thr Arg Val Leu Glu Lys  
 930 935 940  
 Leu Gly Ala Asp Arg Gly Leu Lys Leu Lys Glu Gln Met Ala Phe Val  
 945 950 955 960  
 Gly Phe Lys Gly Ser Phe Arg Pro Ile Trp Val Thr Leu Asp Thr Glu  
 965 970 975  
 Asp His Lys Ala Lys Ile Phe Gln Val Val Pro Ile Pro Val Val Lys  
 980 985 990  
 Lys Lys Lys Leu  
 995

<210> 5  
 <211> 4702  
 <212> DNA  
 <213> Homo sapien

<400> 5  
 gagctagcgc tcaagcagag cccagcgcgg tgctatcgga cagagcctgg cgagcgcaag 60  
 cggcgcgggg agccagcggg gctgagcgcg gccagggtct gaaccagat ttccagact 120  
 agctaccact ccgcttgccc acgccccggg agctcgcggc gcctggcggt cagcgaccag 180  
 acgtccgggg ccgctgcgct cctggcccg caggcgtgac actgtctcgg ctacagaccc 240

agagggagca cactgccagg atgggagctg ctgggaggca ggacttcctc ttcaaggcca	300
tgctgaccat cagctggctc actctgacct gcttccctgg ggccacatcc acagtggctg	360
ctgggtgccc tgaccagagc cctgagttgc aaccctggaa ccctggccat gaccaagacc	420
accatgtgca tatcggccag ggcaagacac tgctgctcac ctcttctgcc acggtctatt	480
ccatccacat ctcagagggg ggcaagctgg tcattaaaga ccacgacgag ccgattgttt	540
tgcgaaacccg gcacatcctg attgacaacg gaggagagct gcatgctggg agtgcctct	600
gccctttcca gggcaatttc accatcattt tgtatggaag ggctgatgaa ggtattcagc	660
cggatcctta ctatggtctg aagtacattg gggttggtaa aggaggcgct cttgagttgc	720
atggacagaa aaagctctcc tggacatttc tgaacaagac ccttcaccca ggtggcatgg	780
cagaaggagg ctattttttt gaaaggagct ggggccaccg tggagttatt gttcatgtca	840
tcgaccccaa atcaggcaca gtcattccatt ctgaccggtt tgacacctat agatccaaga	900
aagagagtga acgtctggtc cagtatttga acgcggtgcc cgatggcagg atcctttctg	960
ttgcagtga tgatgaagg tctcgaaatc tggatgacat ggccaggaag gcgatgacca	1020
aattgggaag caaacacttc ctgcaccttg gatttagaca cccttgaggt tttctaactg	1080
tgaaaggaaa tccatcatct tcagtggaa accatattga atatcatgga catcgaggct	1140
ctgctgctgc ccgggtattc aaattgttcc agacagagca tggcgaatat ttcaatgttt	1200
ctttgtccag tgagtgggtt caagacgtgg agtggacgga gtggttcgat catgataaag	1260
tatctcagac taaagggtgg gagaaaattt cagacctctg gaaagctcac ccaggaaaaa	1320
tatgcaatcg tccattgat atacaggcca ctacaatgga tggagttaac ctcagcaccg	1380
aggttgtcta caaaaaaggc caggattata ggtttgcttg ctacgaccgg ggcagagcct	1440
gccggagcta ccgtgtacgg ttctctctgt ggaagcctgt gaggcccaaa ctcacagtca	1500
ccattgacac caatgtgaac agcaccattc tgaacttga ggataatgta cagtcatgga	1560
aacctggaga taccctggtc attgccagta ctgattactc catgtaccag gcagaagagt	1620
tccagggtgct tccctgcaga tccctgcgcc ccaaccagg taaagtggca gggaaaccaa	1680
tgtacctgca catcggggag gagatagacg gcgtggacat gcgggcggag gttgggcttc	1740
tgagccggaa catcatagt atgggggaga tggaggacaa atgctacccc tacagaaacc	1800
acatctgcaa tttctttgac ttcgatacct ttgggggcca catcaagttt gctctgggat	1860
ttaaggcagc aacttggag ggcacggagc tgaagcatat gggacagcag ctggtgggtc	1920
agtacccgat tcaactccac ctggccggtg atgtagacga aaggggaggt tatgaccac	1980
ccacatacat cagggaacct tccatccatc atacattctc tcgctgcgtc acagtccatg	2040

gctccaatgg cttgttgatc aaggacgttg tgggctataa ctctttgggc cactgcttct	2100
tcacggaaga tgggccggag gaacgcaaca cttttgacca ctgtcttggc ctccttgta	2160
agtctggaac cctcctcccc tcggaccgtg acagcaagat gtgcaagatg atcacagagg	2220
actcctaccc agggtagatc cccaagccca ggcaagactg caatgctgtg tccaccttct	2280
ggatggccaa tccaacaac aacctcatca actgtgccgc tgcaggatct gaggaaactg	2340
gattttgggt tatttttcac cacgtaccaa cgggcccctc cgtgggaatg tactccccag	2400
gttattcaga gcacattcca ctgggaaaat tctataacaa ccgagcacat tccaactacc	2460
gggctggcat gatcatagac aacggagtca aaaccaccga ggcctctgcc aaggacaagc	2520
ggccgttcct ctcaatcatc tctgccagat acagccctca ccaggacgcc gaccgctga	2580
agccccggga gccggccatc atcagacact tcattgccta caagaaccag gaccacgggg	2640
cctggctgcg cggcggggat gtgtggctgg acagctgcc tttcagaggg gaggctcagg	2700
aaggcttctt gcttacagga atgaaggctg ggggcatttt gctgggggga gatgaggcag	2760
cctctggaat ggctcaggga ttcagccctc cctgccgctg cctgctgaag ctggtgacta	2820
cggggtcgcc ctttgctcac gtctctctgg ccactcatg atggagaagt gtggtcagag	2880
gggagcaatg ggctttgctg cttatgagca cagaggaatt cagtccccag gcagccctgc	2940
ctctgactcc aagagggtga agtccacaga agtgagctcc tgccttaggg cctcatttgc	3000
tcttcatcca gggaactgag cacagggggc ctccaggaga ccctagatgt gctcgta	3060
cctcggcctg ggatttcaga gctggaaata tagaaaatat ctagcccaaa gccttcattt	3120
taacagatgg ggaaagtga cccc'aagat gggaaagaac cacacagcta agggagggcc	3180
tggggagccc caccctagcc cttgctgcc caccacattg cctcaacaac cggccccaga	3240
gtgccaggc actcctgagg tagcttctgg aaatggggac aagtcccctc gaaggaaagg	3300
aatgactag agtagaatga cagctagcag atctcttccc tctgctccc agcgcacaca	3360
aaccgcct ccccttggtg ttggcggctc ctgtggcctt cactttgttc actacctgtc	3420
agcccagcct ggggtgcacag tagctgcaac tccccattgg tgctacctgg ctctcctgtc	3480
tctgcagctc tacaggtag gcccagcaga gggagtaggg ctcgccatgt ttctggtgag	3540
ccaatttggc tgatcttggg tgtctgaaca gctattgggt ccaccccagt ccctttcagc	3600
tgctgcttaa tgccctgtc tctccctggc ccaccttata gagagcccaa agagctcctg	3660
taagagggag aactctatct gtggtttata atcttgcacg aggcaccaga gtctccctgg	3720
gtcttgtgat gaactacatt tatccccctt cctgccccaa ccacaaactc tttccttcaa	3780

```

agagggcctg cctggctccc tccacccaac tgcacccatg agactcggtc caagagtcca 3840
ttccccaggt gggagccaac tgtcagggag gtctttccca ccaaaccatct ttcagctgct 3900
gggaggtgac catagggctc tgcttttaaa gatatggctg cttcaaaggc cagagtcaca 3960
ggaaggactt cttccagggg gattagtggg gatggagagg agagttaaaa tgacctcatg 4020
tccttcttgt ccacggtttt gttgagtttt cactcttcta atgcaagggt ctcacactgt 4080
gaaccactta ggatgtgatc actttcaggt ggccaggaat gttgaatgtc tttggctcag 4140
ttcattttaa aaagatatct atttgaaagt tctcagagtt gtacatatgt ttcacagtac 4200
aggatctgta cataaaagtt tctttcctaa accattcacc aagagccaat atctaggcat 4260
tttcttggtg gcacaaatth tcttattgct tagaaaattg tcctccttgt tatttctggt 4320
tgtaagactt aagtgaagta ggtctttaag gaaagcaacg ctctcttgaa atgcttgtct 4380
tttttctggt gccgaaatag ctggctccttt ttcgggagtt agatgtatag agtgtttgta 4440
tgtaaacatt tcttgtaggc atcaccatga acaaagatat attttctatt tatttattat 4500
atgtgcactt caagaagtca ctgtcagaga aataaagaat tgtcttaaat gtcattgattg 4560
gagatgtcct ttgcattgct tggaaggggt gtacctagag ccaaggaaat tggctctggt 4620
ttggaaaaat tttgctgtta ttatagtaaa catacaaagg atgtcaaaaa aaaaaaaaaa 4680
aaaaaaaaaa aaaaaaaaaa aa 4702

```

```

<210> 6
<211> 866
<212> PRT
<213> Homo sapien

```

```
<400> 6
```

```

Met Gly Ala Ala Gly Arg Gln Asp Phe Leu Phe Lys Ala Met Leu Thr
1           5           10           15

Ile Ser Trp Leu Thr Leu Thr Cys Phe Pro Gly Ala Thr Ser Thr Val
          20           25           30

Ala Ala Gly Cys Pro Asp Gln Ser Pro Glu Leu Gln Pro Trp Asn Pro
          35           40           45

Gly His Asp Gln Asp His His Val His Ile Gly Gln Gly Lys Thr Leu
          50           55           60

Leu Leu Thr Ser Ser Ala Thr Val Tyr Ser Ile His Ile Ser Glu Gly
65           70           75           80

Gly Lys Leu Val Ile Lys Asp His Asp Glu Pro Ile Val Leu Arg Thr
          85           90           95

Arg His Ile Leu Ile Asp Asn Gly Gly Glu Leu His Ala Gly Ser Ala
          100          105          110

```

Leu Cys Pro Phe Gln Gly Asn Phe Thr Ile Ile Leu Tyr Gly Arg Ala  
 115 120 125  
 Asp Glu Gly Ile Gln Pro Asp Pro Tyr Tyr Gly Leu Lys Tyr Ile Gly  
 130 135 140  
 Val Gly Lys Gly Gly Ala Leu Glu Leu His Gly Gln Lys Lys Leu Ser  
 145 150 155 160  
 Trp Thr Phe Leu Asn Lys Thr Leu His Pro Gly Gly Met Ala Glu Gly  
 165 170 175  
 Gly Tyr Phe Phe Glu Arg Ser Trp Gly His Arg Gly Val Ile Val His  
 180 185 190  
 Val Ile Asp Pro Lys Ser Gly Thr Val Ile His Ser Asp Arg Phe Asp  
 195 200 205  
 Thr Tyr Arg Ser Lys Lys Glu Ser Glu Arg Leu Val Gln Tyr Leu Asn  
 210 215 220  
 Ala Val Pro Asp Gly Arg Ile Leu Ser Val Ala Val Asn Asp Glu Gly  
 225 230 235 240  
 Ser Arg Asn Leu Asp Asp Met Ala Arg Lys Ala Met Thr Lys Leu Gly  
 245 250 255  
 Ser Lys His Phe Leu His Leu Gly Phe Arg His Pro Trp Ser Phe Leu  
 260 265 270  
 Thr Val Lys Gly Asn Pro Ser Ser Ser Val Glu Asp His Ile Glu Tyr  
 275 280 285  
 His Gly His Arg Gly Ser Ala Ala Ala Arg Val Phe Lys Leu Phe Gln  
 290 295 300  
 Thr Glu His Gly Glu Tyr Phe Asn Val Ser Leu Ser Ser Glu Trp Val  
 305 310 315 320  
 Gln Asp Val Glu Trp Thr Glu Trp Phe Asp His Asp Lys Val Ser Gln  
 325 330 335  
 Thr Lys Gly Gly Glu Lys Ile Ser Asp Leu Trp Lys Ala His Pro Gly  
 340 345 350  
 Lys Ile Cys Asn Arg Pro Ile Asp Ile Gln Ala Thr Thr Met Asp Gly  
 355 360 365  
 Val Asn Leu Ser Thr Glu Val Val Tyr Lys Lys Gly Gln Asp Tyr Arg  
 370 375 380  
 Phe Ala Cys Tyr Asp Arg Gly Arg Ala Cys Arg Ser Tyr Arg Val Arg  
 385 390 395 400  
 Phe Leu Cys Gly Lys Pro Val Arg Pro Lys Leu Thr Val Thr Ile Asp  
 405 410 415  
 Thr Asn Val Asn Ser Thr Ile Leu Asn Leu Glu Asp Asn Val Gln Ser



420	425	430
Trp Lys Pro Gly Asp Thr Leu Val Ile Ala Ser Thr Asp Tyr Ser Met		
435	440	445
Tyr Gln Ala Glu Glu Phe Gln Val Leu Pro Cys Arg Ser Cys Ala Pro		
450	455	460
Asn Gln Val Lys Val Ala Gly Lys Pro Met Tyr Leu His Ile Gly Glu		
465	470	475
Glu Ile Asp Gly Val Asp Met Arg Ala Glu Val Gly Leu Leu Ser Arg		
485	490	495
Asn Ile Ile Val Met Gly Glu Met Glu Asp Lys Cys Tyr Pro Tyr Arg		
500	505	510
Asn His Ile Cys Asn Phe Phe Asp Phe Asp Thr Phe Gly Gly His Ile		
515	520	525
Lys Phe Ala Leu Gly Phe Lys Ala Ala His Leu Glu Gly Thr Glu Leu		
530	535	540
Lys His Met Gly Gln Gln Leu Val Gly Gln Tyr Pro Ile His Phe His		
545	550	555
Leu Ala Gly Asp Val Asp Glu Arg Gly Gly Tyr Asp Pro Pro Thr Tyr		
565	570	575
Ile Arg Asp Leu Ser Ile His His Thr Phe Ser Arg Cys Val Thr Val		
580	585	590
His Gly Ser Asn Gly Leu Leu Ile Lys Asp Val Val Gly Tyr Asn Ser		
595	600	605
Leu Gly His Cys Phe Phe Thr Glu Asp Gly Pro Glu Glu Arg Asn Thr		
610	615	620
Phe Asp His Cys Leu Gly Leu Leu Val Lys Ser Gly Thr Leu Leu Pro		
625	630	635
Ser Asp Arg Asp Ser Lys Met Cys Lys Met Ile Thr Glu Asp Ser Tyr		
645	650	655
Pro Gly Tyr Ile Pro Lys Pro Arg Gln Asp Cys Asn Ala Val Ser Thr		
660	665	670
Phe Trp Met Ala Asn Pro Asn Asn Asn Leu Ile Asn Cys Ala Ala Ala		
675	680	685
Gly Ser Glu Glu Thr Gly Phe Trp Phe Ile Phe His His Val Pro Thr		
690	695	700
Gly Pro Ser Val Gly Met Tyr Ser Pro Gly Tyr Ser Glu His Ile Pro		
705	710	715
Leu Gly Lys Phe Tyr Asn Asn Arg Ala His Ser Asn Tyr Arg Ala Gly		
725	730	735

Met	Ile	Ile	Asp	Asn	Gly	Val	Lys	Thr	Thr	Glu	Ala	Ser	Ala	Lys	Asp
			740					745					750		
Lys	Arg	Pro	Phe	Leu	Ser	Ile	Ile	Ser	Ala	Arg	Tyr	Ser	Pro	His	Gln
		755					760					765			
Asp	Ala	Asp	Pro	Leu	Lys	Pro	Arg	Glu	Pro	Ala	Ile	Ile	Arg	His	Phe
	770					775					780				
Ile	Ala	Tyr	Lys	Asn	Gln	Asp	His	Gly	Ala	Trp	Leu	Arg	Gly	Gly	Asp
785					790					795					800
Val	Trp	Leu	Asp	Ser	Cys	His	Phe	Arg	Gly	Glu	Ala	Gln	Glu	Gly	Phe
			805						810					815	
Leu	Leu	Thr	Gly	Met	Lys	Ala	Gly	Gly	Ile	Leu	Leu	Gly	Gly	Asp	Glu
			820					825					830		
Ala	Ala	Ser	Gly	Met	Ala	Gln	Gly	Phe	Ser	Pro	Pro	Cys	Arg	Cys	Leu
		835					840					845			
Leu	Lys	Leu	Val	Thr	Thr	Gly	Ser	Pro	Phe	Ala	His	Val	Ser	Leu	Ala
	850					855					860				
His	Ser														
865															